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SCOPING REPORT

The Crooked Creek Analysis Area

Salem Ranger District
Mark Twain National Forest
Dent and Crawford Counties, Missouri



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I. INTRODUCTION

This scoping report summarizes a proposal to develop the Crooked Creek Analysis Area project. The purpose of this report is to inform interested and affected parties of the proposal and to solicit comments on the proposal. This project is now a District priority, with a final decision tentatively scheduled for June 2004.

II. LOCATION

The Crooked Creek Analysis area is located on public lands administered by the Salem Ranger District of the Mark Twain National Forest (MTNF). The project area is east of Salem, Missouri, in Dent and Crawford Counties. The legal description is Township 35 North, Range 3 West, Sections 7, 9-11, 14-23, 26-29, and 31-34; Township 34 North, Range 3 West, Sections 1-6, 8-10, 16-23, 25-27, and 34-36; and Township 34 North Range 4 West, Sections 8, 9, 13-17, and 22-24. Please refer to the attached maps. The project area is approximately 23,217 acres.

III. BACKGROUND

The project area is characterized by a topography of gently rolling hills and bedrock outcropping that is typical of the Ozark Highlands. The forest found in the project area today is the culmination of years of natural development and active forest management. Like most areas on the Mark Twain National Forest, these hills have had a history of timber harvest and various attempts at cultivation and livestock grazing prior to being abandoned in the early 1900s.

In addition, the Crooked Creek Analysis Area was severely impacted by timber harvest for charcoal production from 1888 to 1923. This charcoal was used to fuel the iron works smelters at the community of Sligo, just west of the project area. Aerial photographs of the project area, taken in 1939, show a landscape dominated by sparse vegetation on ridges and cleared pastures along major drainages. After the iron works closed, the sparsely forested lands were organized into what is now part of the MTNF. The Civilian Conservation Corps (CCC), local citizens, and USDA Forest Service personnel worked together to re-establish and sustain the developing forest. While the forest was historically a mixed oak and short-leaf pine composition, the resulting re-growth was primarily black oak, post oak, hickory, and white oak. Later short-leaf pine plantations were established in localized areas.

IV. PURPOSE AND NEED AND THE PROPOSED ACTION

The Salem Ranger District is proposing to improve forest health, enhance wildlife habitats, and provide additional recreational opportunities in the Crooked Creek Analysis Area. The proposed action is needed due to declining habitat diversity, forest health and vigor, and to meet desired future conditions as identified in the Mark Twain National Land and Resource Management Plan (LRMP), also known as the Forest Plan.

The soils in the project area are typically cherty, droughty soils derived from sedimentary rocks, mostly limestone and dolomite. Due to the shallow nature of these soils, and the relative age and composition of the vegetation that now occupies the Ozark Highlands, an increasing amount of oak decline is evident throughout the Crooked Creek Analysis Area. Under these conditions, oaks are susceptible to insects and disease. This decline is particularly prevalent where black oak and scarlet

oak occur in more or less homogenous stand. Other stands are overcrowded and losing vigor from increased competition for nutrients and growing space.

Preliminary analysis of the project area indicates that there are certain conditions that warrant action in order to:

1. Manage and mitigate severe oak decline and associated mortality within the project area to maintain viable, healthy, and sustainable timber stands through species composition management.
2. Accomplish the direction and desired conditions identified in the Mark Twain National Forest Land and Resource Management Plan.

Broad management guidelines for areas of oak decline are discussed in the *Ozark—Ouachita Highlands Assessment (OOHA)*. More specific management guidelines may be found within federal, state, and private forestry reports; North Central Experimental Station reports and assessments; and Missouri Department of Conservation publications.

The Crooked Creek Analysis Area Project objectives are to:

- Improve forest health and resiliency to improve wildlife habitat.
- Improve wildlife habitat diversity by moving towards the Desired Future Conditions for wildlife habitat components identified in the Forest Plan.
- Protect Threatened, Endangered, and Sensitive Species.
- Protect and enhance cultural resources, special areas and specialized habitats.

The Role of the Forest Plan

The Forest Plan, approved in 1986, provides a programmatic framework regarding allocation of land and the measures necessary to protect National Forest resources. It describes how different areas of the MTNF should be managed and what resources should be provided by these lands now and in the future. The Forest Plan Final Environmental Impact Statement (FEIS) displays the forest-wide effects of activities such as timber harvest, wildlife habitat management, recreation management and visual resource management. The site-specific effects of those practices to this project are not part of the Forest Plan (FEIS). An environmental assessment will be prepared to analyze site-specified management activities to the Crooked Creek Analysis Area.

The Forest Plan gives management prescriptions designed to accomplish a Desired Future Condition (DFC). The Forest Plan identifies the area in which this project is to occur as Management Area (MA) 3.4-1, 3.4-2 and 3.4-3. The general direction for the management of these areas is:

... to provide a managed forest setting which emphasizes wildlife habitat diversity to maintain and enhance populations of native and naturalized vertebrates...to emphasize recreational opportunities based on consumptive and non-consumptive use of wildlife and fish...to provide dispersed recreation opportunities featuring a roaded natural recreation environment...to provide for moderate to high production of other resources such as timber products, forage, and minerals.
(Mark Twain National Forest LRMP, page IV-115).

The prescription for MA 3.4 also states that any temporary openings created by even-aged silviculture management should not exceed a maximum limit of 40 acres (Mark Twain National Forest LRMP, page IV-118). The definition of an “opening” is an area where the trees are less than 20 feet in height (Mark Twain National Forest LRMP, page IV-38). Some of the treatments described in the proposed actions below will result in temporary openings in excess of 40 acres. While none of the proposed harvest areas exceed 40 acres, some proposed openings are adjacent to previously created openings where trees have yet to reach a height of 20 feet. The condition of these combined “opening” acreages exceeding 40 acres would exist for a very limited duration, as trees in the existing openings would reach a height of 20 feet in approximately 4 to 7 years. Temporary openings may exceed the 40-acre limit when natural catastrophic conditions occur (Mark Twain National Forest LRMP, page IV-39).

The Forest Plan also provides guidelines for maintaining forest health and conserving biological diversity on National Forest lands. Vertical diversity of plant and animal communities are maintained by managing for natural communities in varying stages of development. These stages, or habitat conditions, help provide diverse habitats and ecosystems necessary to sustain healthy populations of plants and animals for the Crooked Creek Analysis Area. The following proposed actions are designed to enhance these habitats and move the existing condition toward the DFC (please refer to attached maps). More detailed tables of proposed treatments are attached to this document.

Proposed Actions

1. Provide for Healthy, Resilient Forests:

Existing Conditions: We can improve the health, vigor, and resistance to insects and disease of forested stands by improving growing conditions. The planted pine stands have become overcrowded, slowing growth of the pine. We have previously discussed the decline of oak stands in the analysis area. Stand conditions in the area also indicate a need for modification in management and age class distribution. Approximately 3948 acres in the analysis area are located within stands designated as having a high risk condition. High risk stands are those which will not survive 10 years or in which, due to decay, insect or disease mortality, or other factors there will be a net volume loss within 10 years. High risk stands compose approximately 17 % of the total acreage in the analysis area. Some high risk stands in the analysis area exhibit over 25 % mortality in larger trees and/or have greater than 30 % crown dieback resulting from terminal decline symptoms.

In addition, approximately 396 acres (2 %) of the analysis area are in stands designated as sparse and 4203 acres (18 %) are in stands designated as low quality. By modifying the management approach for these stands, their condition may be improved to meet the Desired Future Conditions (DFC) prescribed by the Forest Plan. The Salem Ranger District proposes the following actions to meet the need for healthy, resilient forests. The total area for these treatments is approximately 5612 acres.

Proposed Thin and Overstory Removal: We propose to thin some stands in the analysis area. This would provide more growing space for the remaining trees. Thinning removes only some of the trees in the stand, thus providing more growing space for the remaining trees. This harvest method will be used primarily for pine stands in this project. Sanitation thinning will be used to remove high risk overstory trees (primarily black and scarlet oaks) while leaving an acceptable

growing stock of healthy trees in the stand. In stands where a healthy young understory has developed, the entire overstory will be removed. This will allow full sunlight and more growing space for the young trees. Large trees showing signs of decline would be removed (overstory removal) allowing more growing space for healthy, younger trees. Approximately 734 acres of sanitation thinning and approximately 689 acres of commercial pine thinning are proposed for this project.

Proposed Uneven-aged Management: Uneven-aged management with group selection will be used in mixed oak and oak/pine stands where the black and scarlet oak are declining. Harvesting the declining trees will result in small openings in the canopy from ½ to 1 acre. These openings will help put more sunlight on the forest floor to promote the regeneration which is already present. After harvesting, small, suppressed, damaged, and undesirable trees would be removed to encourage regeneration. Group selection harvests are planned on approximately 1621 acres of the project area.

Proposed Even-aged Management: In some stands, black and scarlet oak are dominant with very few other species present. In these stands, the proposal is to use even-aged harvesting (final harvest, seed tree, or shelterwood). The type of harvest depends on the distribution and amount of other species in each stand. Final harvest with reserves is proposed for approximately 919 acres of the analysis area. Approximately 26 acres of seed tree harvest and approximately 1097 acres of shelterwood harvest are also proposed for the analysis area.

Followup Treatments for Even-aged Management stands above: Treatments following harvests are necessary to achieve the desired results.

Natural Regeneration: After harvesting, suppressed, damaged, and undesirable trees would be removed to encourage regeneration.

Pine planting is proposed as the regeneration method for 700 acres. Initiating pine growth in stands containing high percentages of black oak and scarlet oak increases species richness on the site and will improve tree species composition and stand vigor in the long term (FEIS, Oak Decline and Forest Health, 2002, page 3-49). MA 3.4 calls for reforestation by natural reforestation methods (Mark Twain National Forest LRMP, page IV-118). A Forest Plan amendment allowing pine planting as a reforestation method would be required in conjunction with the Crooked Creek Analysis Area Project.

2. Improve and Maintain Wildlife Habitat:

Provide 0-9 Age Class Habitat:

Existing Conditions: This habitat type is important to 5 of the 9 Management Indicator Species (MIS): White-tailed deer, Eastern wild turkey, Ruffed grouse, Bobcat, and Indigo bunting. Approximately 3.4 % of MAs 3.4-1 and 3.4-2 is woodland habitat in the 0-9 age class and approximately 2.3 % of MA 3.43 is composed of this habitat. This is below the Desired Future Condition of 8-15 % prescribed by the Forest Plan (Mark Twain LRMP, page IV-103).

Acorn production is important to many forest animals. In the Crooked Creek Analysis Area, black and scarlet oaks are the more abundant oak species, but a high percentage of these oaks are past their life expectancy. As a result, the acorn production has been reduced, and many trees are dying. Timber harvesting will diversify age classes of these

oaks and allow the acorn production to become more constant in the future. For this reason, several stands selected to meet the Forest Plan guidelines for woodland habitats in 0-9 year age class are black and scarlet oak.

Proposed Actions: The even-aged management activities proposed above would create 0-9 age class habitat.

Provide Forested Stands with Ground Cover Habitat:

Existing Conditions: Woodland habitats in oak, oak-pine, and pine forest types with 20 % to 30 % forbs, grass, and shrub ground cover are important habitat types for wildlife. Some of the Threatened & Endangered (T&E), MIS, Neotropical Migratory Birds (NMB), and Regional Forester's Sensitive Species (RFSS) that occur in this habitat type include: Eastern wild turkey, Bobcat, White-tailed deer, Ovenbird, Royal catchfly, and Indiana bat. Approximately 7.8 % of MAs 3.4-1 and 3.4-2 is the woodland habitat in oak, oak-pine, and pine forest types with 20 % to 30 % forbs, grass, and shrub component. Approximately 4.4 % of MA 3.43 is composed of this habitat. This is below the Desired Future Condition of 40-50 % prescribed by the Forest Plan (Mark Twain LRMP, page IV-103).

Proposed Actions: We propose additional stand thinning treatments using timber harvest. These areas would then be burned one time. These actions would allow for these stands to achieve the 20% to 30% ground cover by forbs, grasses, and shrubs.

Maintain Open and Semi-Open Lands:

Existing Conditions: The Forest Service maintains numerous open areas, semi-open areas, and grazing allotments in order to provide habitat for wildlife. These are scattered throughout the analysis area and occur in a variety of sizes. Over time, brush and other competing vegetation has encroached on these openings. About 7.5 % of MAs 3.4-1 and 3.4-2 is composed of open or semi-open habitat. This is lower than the Desired Future Condition of 10-20 % prescribed by the Forest Plan (Mark Twain LRMP, page IV-103). Approximately 6.5 % of MA 3.4-3 is open or semi-open habitat. This falls below the Desired Future Condition for this MA which is 7-12 %. Objectives of these actions are to improve the distribution of these openings to maximize their benefit to wildlife, maintain a highly nutritional food source for wildlife, and maintain areas with native grasses and provide forage in grazing allotments.

Proposed Actions: We propose hand cutting or mowing approximately 1512 acres of existing open and semi-open habitat in order to remove competing vegetation. Some of the open and semi-open habitat areas will be burned on a 3 to 4 year rotation to encourage the proliferation of native grasses. In addition, term grazing permits will be issued with management plans for three existing grazing allotments.

Improve and maintain aquatic habitat:

Existing Conditions- lakes and ponds: The Forest Service in partnership with Missouri Department of Conservation maintains five lakes and ponds for fisheries: Howes Mill Lake, Howes Mill Pond, Howes Mill South, Huzzah cutoff pond number 3, and Gnuse pond. These lakes and ponds are stocked with channel catfish, bluegill, and largemouth bass. There is a lack of hiding cover for fish at these lakes (see attached maps). The lack

of hiding cover, such as woody debris, increases the risk of predation, while reducing opportunities for shade and nesting sites. The Forest Plan gives direction to provide for fisheries management on waters capable of supporting viable fish populations by maintaining and improving cover and spawning structures (Mark Twain National Forest LRMP, page IV-118). Additionally, siltation in Howes Mill Lake has decreased the water depth on the upper end to a point where the lake needs to be drained, deepened, and stocked. The spillway at Howes Mill South is eroding on the back side. The rock gabions are being undercut on the spillway at Howes Mill Lake. Thus, there is a need for major lake and pond rehabilitation to maintain and improve fish habitat that is favorable to the growth and development of fish populations.

Proposed Actions: The Forest Service proposes fish stocking, fish habitat improvements (including fish structures, fertilization, liming), and dam maintenance and reconstruction (including draining and deepening Howe's Mill Lake), for the five lakes and ponds managed for flat water fishing opportunities. This action will maintain existing flat water fishing opportunities for public fishing.

3. Hazardous Fuel Reduction

Existing Condition: Due to the level of tree mortality, wind and ice damage, understory growth, and past fire exclusion, some portions of the analysis area are proposed for a fuels treatment burn to reduce the potential for stand replacing intensity fires should they occur at a period when burning conditions are more extreme. The amount of fuel loading occurring in natural communities affects how a fire burns and its effects on the landscape. The fire's intensity, and how it behaves in the environment, either enhances or impacts natural resources, and either reduces or threatens harm to property, human life, and the environment. Reducing the fuel loading can reduce the likelihood and intensity of wildland fires while simultaneously enhancing wildlife habitat and enriching native oak-pine woodland vegetation. The Federal Wildland Fire Management Policy and the Forest Plan are the guiding policy documents for fire management on the MTNF.

The Federal Wildland Fire Management Policy directs Federal agencies to achieve a balance between suppression to protect life, property, and resources, and fire use to regulate fuels and maintain healthy ecosystems. The Forest Plan further identifies the fire management policy on National Forest System lands is to provide fire protection and fire use programs that are cost effective and responsive to management area objectives. The policy also allows for the use of prescribed fires to meet management direction as appropriate for ecosystems involved and to meet project objectives. (Mark Twain LRMP, page IV 74-76)

Proposed Action: Prescribe burn 5490 acres. Proposed prescribed burning in the Crooked Creek Project area follows direction within the Federal Wildland Fire Management Policy. Each prescribed fire will follow specific prescriptions contained in approved operational plans in compliance with planning and execution elements specified in Forest Service Manual 5140.

4. Connected Actions:

Some actions require other actions in order to be accomplished. These actions will be considered in the environmental analysis of this project.

Fire Lines: Existing roads and natural fire breaks would be used whenever possible. New fire line construction would be necessary in some areas.

Proposed Road Work: There are 40 Forest Service system roads within the management areas, with a combined length of 52.5 miles. The project area contains 36.3 square miles of National Forest System land. This equates to 1.4 miles of system road per square mile of Forest Service land. The Forest Plan, page IV-123, provides direction on the maximum density of system roads allowed within a 3.4 MA, which is 2-mile/square mile of Forest Service land. The road density for the project area is below the Forest Plan's maximum density limit.

National Forest system roads within the project area vary from 0.1 miles to over 6 miles in length. The Crooked Creek project has 8.4 miles of system roads that need reconstruction before they can be used to access project activities. The other 44.1 miles of system road need routine maintenance, such as replacing surface material, surface blading, improving drainage features, removing brush from right-of-ways, and cleaning culverts. In addition to system roads, there are non-system roads on National Forest System land in the project area. The condition of these roads is usually fair to poor because no road improvement or maintenance work has ever been done.

V. DECISION TO BE MADE

The Forest Supervisor is the Responsible Official for making decisions based on the Crooked Creek environmental analysis. The Deciding Official must decide whether or not to proceed with a specific action. If an action alternative is selected, the decision may include mitigation measures in addition to the Forest Plan Standards and Guidelines.

The decision is not one of land allocation, nor is the analysis intended to look at every possible combination of activities. The scope of the decision will be confined to a reasonable range of alternatives that will meet the project purpose and need.

VI. PRELIMINARY ISSUES

In accordance with laws and regulations, factors such as vegetation, wildlife, threatened and endangered species, water and air quality and cultural resources will be addressed in the analysis. The proposed action will likely develop unresolved conflicts or concerns that reflect opposing views concerning these and other factors. These concerns, or issues, will be used to develop a reasonable range of alternatives so the deciding official can make an informed decision. Other concerns or issues may develop as a result of public comment. Several preliminary issues have been identified

by the interdisciplinary team that need to be considered during our analysis of the Crooked Creek Analysis Area Project. This includes, but is not limited to the following:

- Size of openings created by harvesting
- Forest health and vigor
- Protection of cultural resources
- Threatened, Endangered, or Sensitive Species habitat may be present and need to be protected.
- Protect soil and water quality in the project area.

